



Analog baseline voltage = (Ramp top voltage) - $v - (|p-p \text{ spatial noise}|/2)$
 to assure us that the digitizer always delivers positive count values. If the digitizer delivers zero counts for some time sample we must assume that the signal was 'clipped' because the sum of the signal and the spatial noise was a voltage > ramp top voltage.

Schematic representation of the voltage relationships of the input signals to the Analog Transient Waveform Digitizer (ATWD). The spatial noise pattern is an artifact of the variations in the manufacturing process as they affect each buffer-amplifier/comparator pair. The spatial noise pattern will fluctuate from read-out to read-out due to kT noise effects.